

50. (Amended) The method according to claim 49, wherein the step of applying [said distribution or application of] the insecticidal composition to the surface of the plant [comprises application of said insecticidal composition to the surface of the plants, especially] is carried out by spraying, immersion or nebulizing.

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51. (Amended) The method according to [one or more of] claim[s] 1 [to 50], wherein said plants are selected from the group consisting of cotton, cereals, rice, corn, potatoes, tobacco, coffee, cocoa, tea, vegetables, fruits, nuts, spices, herbs, seeds, ornamental plants, cultured flowers and flowers for cutting.

52. (Amended) The method according to claim 1, wherein the [use of an antimicrobial composition as defined in claim[s] 1 [to 25 and 27 to 48 for the treatment of plants] is applied shortly before and after the harvest to prevent molds, viruses and parasites.

REMARKS

The specification has been amended to claim the benefits of the copending International Application under 35 U.S.C. § 120 and of the priority German patent application under 35 U.S.C. § 119.

The translation of the International Application did not include an Abstract of the Disclosure as required under 37 C.F.R. § 1.72(b). However, the copending

International Application, when published as Published International Application No. WO 01/13727A1, on March 1, 2001, included an Abstract in English. That Abstract is included in the English language copy of the application submitted herewith and is considered to be part of the application because of its inclusion in the Published International Application No. WO 01/13727A1.

Certain of pending claims 1–52 have been amended to remove multiple dependencies and try to place the claims in proper form under United States Patent and Trademark Office practice. There is clear support for the amended claims 1-51 in the corresponding original claims.

Amended Claim 52 has been changed from a use claim to a method of treatment. Support for the additional subject matter in amended claim 52 compared with original claim 52 is provided by the tables at the end of the specification.

A clean copy of the new paragraph in the specification and of claims 1-52 is attached as **Exhibit A** to this Amendment.

Respectfully submitted,

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PATENT

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EXHIBIT A**Amendment to the Specification**

This Application is a national phase filing of co-pending International Application No. PCT/EP00/08344 filed August 25, 2000, which claims the benefit of that application under 35 U.S.C. § 120 and which also claims the benefit under 35 U.S.C. § 119 of German Application No. 119 40 283.3 filed August 25, 1999.

Claims as Amended

1. A method for protecting plants shortly before or after the harvest from microbial attack, comprising the step of applying an antimicrobial composition to the surface of the plants, said antimicrobial composition comprising:
 - (i) at least one lipophilic GRAS (generally recognized as safe) flavoring agent; and
 - (ii) at least one hydrophilic GRAS flavoring agent.
2. The method according to claim 1, wherein said lipophilic GRAS flavoring agents are selected from the group consisting of (a₁) lipophilic GRAS flavor alcohols or their derivatives, (b) polyphenol compounds, (c₁) lipophilic GRAS flavor acids or their derivatives, (d) phenols or their

derivatives, (e) lipophilic esters, (f) terpenes, (g) acetals, (h) lipophilic aldehydes and (i) essential oils.

3. The method according to claim 1, wherein said antimicrobial composition comprises at least two lipophilic GRAS flavoring agents.
4. The method according to claim 2, wherein said lipophilic GRAS flavor alcohols are selected from the group consisting of aromatic GRAS flavor alcohols, including benzyl alcohol, 2-phenylethanol, 1-phenylethanol, cinnamyl alcohol, hydrocinnamyl alcohol, 1-phenyl-1-propanol and anisalcohol, and aliphatic GRAS flavor alcohols, including n-butyl alcohol, iso-butyl alcohol, hexyl alcohol, L-menthol, octyl alcohol, heptyl alcohol, n-amyl alcohol, iso-amyl alcohol, anisalcohol, citronellol, n-decyl alcohol, geraniol, β , γ -hexenol, lauryl alcohol, linalool, nerolidol, nonadienol, nonyl alcohol, rhodinol, terpeneol, borneol, clineol, anisole, cuminyl alcohol, 10-undecene-1-ol and 1-hexadecanol and their derivatives.
5. The method according to claim 2, wherein said hydrophilic GRAS flavoring agent is selected from the group consisting of a hydrophilic alcoholic GRAS flavoring agent and a hydrophilic non-alcoholic GRAS flavoring agent, wherein said hydrophilic non-alcoholic GRAS flavoring agent is a hydrophilic organic GRAS flavor acid having from 1 to 15

carbon atoms or a physiological salt thereof, a hydrophilic acetate or a hydrophilic aldehyde.

6. The method according to claim 5, wherein said hydrophilic organic acid has from 2 to 10 carbon atoms said hydrophilic acetate is selected from the group consisting of allicin, triacetin, potassium acetate, sodium acetate and calcium acetate; and said hydrophilic aldehyde is selected from the group consisting of furfural, propionaldehyde and vanillin.
7. The method according to claim 5, wherein said antimicrobial composition comprises less than 50% by weight of benzyl alcohol or of a mixture of benzyl alcohol with ethanol and/or isopropanol.
8. The method according to claim 5, wherein said antimicrobial composition comprises two lipophilic GRAS flavor alcohols, but no benzyl alcohol and no polyphenol compounds.
9. The method according to claim 5, wherein said antimicrobial composition comprises benzyl alcohol and/or a polyphenol compound, but no further GRAS flavor alcohols.
10. The method according to claim 8, wherein said antimicrobial composition consists of a hydrophilic GRAS flavor acid.

11. The method according to claim 9, wherein said antimicrobial composition comprises from 0.01 to 99% by weight of benzyl alcohol or polyphenol compounds and from 0.01 to 50% by weight of hydrophilic non-alcoholic GRAS flavoring agents.
12. The method according to claim 1, wherein said antimicrobial composition comprises:
 - (A) at least one GRAS flavor alcohol (a) and/or its derivatives; and
 - (B) at least one flavoring agent selected from the group consisting of polyphenol compounds (b) and lipophilic GRAS flavor acids or their derivatives (c).
13. The method according to claim 12, wherein said antimicrobial composition comprises:

from 0.1 to 99% by weight of component (a),

from 0 to 25% by weight of component (b), and

from 0 to 70% by weight of component (c).
14. The method according to claim 12, wherein said antimicrobial composition contains further GRAS flavoring agents selected from (d) phenols or their derivatives, (e) lipophilic esters, (f) terpenes, (g) acetals, (h) lipophilic aldehydes and (i) essential oils.

15. The method according to claim 12, wherein component (A) of said antimicrobial composition is benzyl alcohol.
16. The method according to claim 13, wherein said polyphenol compound is selected from the group consisting of:
catechol, resorcinol, hydroquinone, phloroglucinol, pyrogallol, cyclohexane, resveratrol, usnic acid, acylpolyphenols, lignins, anthocyanins, flavones, catechols, gallic acid derivatives, caffeic acid, flavonoids, derivatives of the mentioned polyphenols, and extracts from Camellia, Primula; and said lipophilic GRAS acid is selected from the group consisting of:
adipic acid, capronic acid, pelargonic acid, phenoxyacetic acid, valeric acid, iso-valeric acid, cinnamic acid, mandelic acid and their derivatives.
17. The method according to claim 12, wherein the component A of said antimicrobial composition comprises:

from 0.1 to 99% by weight of benzyl alcohol;
from 0 to 99.8% by weight of component (a₁);
from 0 to 25% by weight of component (b); and
from 0 to 70% by weight of component (c).

18. The method according to claim 17, wherein said antimicrobial composition comprises from 0.001 to 25% by weight of further lipophilic GRAS flavoring agents selected from the group consisting of phenols or their derivatives, esters, terpenes, acetals, aldehydes and essential oils or extracts thereof.
19. The method according to claim 18, wherein said further lipophilic GRAS flavoring agents are phenols and/or essential oils or extracts thereof having a high content of alcohols, aldehydes, phenols, acetates or esters.
20. The method according to claim 1, wherein said antimicrobial composition does not contain any derivatives of the GRAS flavoring agents.
21. The method according to claim 17, wherein said antimicrobial composition comprises one or two lipophilic GRAS flavor alcohols and at least one polyphenol compound.
22. The method according to claim 21, wherein said polyphenol compound is tannin.

23. The method according to claim 22, wherein said antimicrobial composition contains from 20 to 98% by weight of benzyl alcohol and from 0.01 to 10% by weight of tannin.
24. The method according to claim 1, wherein said antimicrobial composition further comprises monohydric or polyhydric alcohols having from 2 to 10 carbon atoms, and additives selected from the group consisting of emulsifiers, stabilizers, antioxidants, preservatives, solvents and carriers.
25. The method according to claim 1, wherein said antimicrobial composition consists of GRAS flavoring agents.
26. The method according to claim 1, wherein said step of applying said antimicrobial composition to the surface of the plants is carried out by spraying, immersion or nebulizing.
27. A method for protecting plants from microbial attack shortly before or after the harvest, comprising the distribution of said antimicrobial composition within the plant by the step of adding the antimicrobial composition to nutrient media, nutrient liquids and/or water, said antimicrobial composition comprising at least two GRAS (generally recognized as safe) flavoring agents.

28. The method according to claim 27, wherein said GRAS flavoring agents are selected from the group consisting of (a) GRAS flavor alcohols or their derivatives, (b) polyphenol compounds, (c) GRAS flavor acids or their derivatives, (d) phenols or their derivatives, (e) esters, (f) terpenes, (g) acetals, (h) aldehydes and (i) essential oils.
29. The method according to claim 27, wherein said antimicrobial composition comprises at least one GRAS flavor alcohol.
30. The method according to claim 29, wherein said antimicrobial composition comprises less than 50% by weight of an alcohol selected from the group consisting of ethanol, isopropanol or benzyl alcohol or a mixture of these alcohols.
31. The method according to claim 27, wherein said antimicrobial composition comprises at least one hydrophilic alcoholic GRAS flavoring agent and/or one hydrophilic non-alcoholic GRAS flavoring agent.
32. The method according to claim 31, wherein said antimicrobial composition further comprises benzyl alcohol and/or a polyphenol compound.

33. The method according to claim 27, wherein said antimicrobial composition comprises:
- (A) at least one GRAS flavor alcohol (a) and/or its derivative; and
 - (B) at least one flavoring agent selected from the group consisting of (b) polyphenol compounds and (c) GRAS flavor acids or their derivatives.
34. The method according to claim 33, wherein said antimicrobial composition comprises:
- from 0.1 to 99% by weight of GRAS flavor alcohol;
 - from 0 to 25% by weight of polyphenol compounds; and
 - from 0 to 70% by weight of GRAS flavor acids or their derivatives.
35. The method according to claim 27, wherein said antimicrobial composition comprises benzyl alcohol and at least one further GRAS flavoring agent.
36. The method according to claim 35, wherein said further GRAS flavoring agents are selected from (a) GRAS flavor alcohols or their derivatives, (b) polyphenol compounds, (c) GRAS flavor acids or their derivatives, (d) phenols or their derivatives, (e) esters, (f) terpenes, (g) acetals, (h) aldehydes and (i) essential oils.

37. The method according to claim 36, wherein said antimicrobial composition comprises less than 50% by weight of benzyl alcohol or of a mixture of benzyl alcohol with ethanol and/or isopropanol.

38. The method according to claim 33, wherein said antimicrobial composition comprises:

benzyl alcohol as a necessary component;

at least one other GRAS flavor alcohol and/ or their derivatives;

at least one polyphenol compound; and/or

at least one GRAS acid and/or their derivatives.

39. The method according to claim 38, wherein said further GRAS flavor alcohol is selected from the group consisting of:

acetoin, ethyl alcohol, propyl alcohol, isopropyl alcohol, propylene glycol, glycerol, n-butyl alcohol, iso-butyl alcohol, hexyl alcohol, L-menthol, octyl alcohol, cinnamyl alcohol, α -methylbenzyl alcohol, heptyl alcohol, n-amyl alcohol, iso-amyl alcohol, anisalcohol, citronellol, n-decyl alcohol, geraniol, β,γ -hexenol, lauryl alcohol, linalool, nerolidol, nonadienol, nonyl alcohol, rhodinol, terpineol, borneol, clineol, anisole, cuminyl alcohol, 10-un-decene-1-ol, 1-hexadecanol or their derivatives;

said polyphenol compound is selected from the group consisting of:

catechol, resorcinol, hydroquinone, phloroglucinol, pyrogallol, cyclohexane, resveratrol, usnic acid, acylpolyphenols, lignins, anthocyanins, flavones, catechols, gallic acid derivatives, caffeic acid, flavonoids, derivatives of the mentioned polyphenols, and extracts from Camellia, Primula; and

said GRAS acid is selected from the group consisting of:

acetic acid, aconitic acid, adipic acid, formic acid, malic acid, capronic acid, hydrocinnamic acid, pelargonic acid, lactic acid, phenoxyacetic acid, phenylacetic acid, valeric acid, iso-valeric acid, cinnamic acid, citric acid, mandelic acid, tartaric acid, fumaric acid, tannic acid and their derivatives.

40. The method according to claim 38, wherein said antimicrobial composition comprises:

from 0.1 to 99% by weight of benzyl alcohol;

from 0 to 99.8% by weight of other GRAS flavor alcohols and/or their derivatives;

from 0 to 25% by weight of polyphenol compounds; and

from 0 to 70% by weight of GRAS acids and/or their derivatives.

41. The method according to claim 38, wherein said antimicrobial composition comprises further GRAS flavoring agents selected from

the group consisting of phenols, esters, terpenes, acetals, aldehydes and essential oils.

42. The method according to claim 41, wherein said antimicrobial composition contains from 0.001 to 25% by weight of said further GRAS flavoring agents.
43. The method according to claim 42, wherein said further GRAS flavoring agents are phenols and/or essential oils.
44. The method according to claim 27, wherein said antimicrobial composition does not contain any derivatives of the GRAS flavoring agents.
45. The method according to claim 38, wherein said antimicrobial composition contains one or two GRAS flavor alcohols and at least one polyphenol compound.
46. The method according to claim 45, wherein said polyphenol compound is tannin.
47. The method according to claim 46, wherein said antimicrobial composition contains from 20 to 98% by weight of benzyl alcohol and from 0.01 to 10% by weight of tannin.

48. The method according to claim 27, wherein said antimicrobial composition is the composition of claim 12.
49. A method for protecting plants shortly before or after the harvest from insects and insect larvae, comprising the steps of:
- (i) applying an insecticidal composition to the surface of the plants and/or
 - (ii) distributing an insecticidal composition within the plant by adding the insecticidal composition to nutrient media, nutrient liquids and/or water; wherein said insecticidal composition is a composition containing GRAS flavoring agents as defined in claim 1.
50. The method according to claim 49, wherein the step of applying the insecticidal composition to the surface of the plant is carried out by spraying, immersion or nebulizing.
51. The method according to claim 1, wherein said plants are selected from the group consisting of cotton, cereals, rice, corn, potatoes, tobacco, coffee, cocoa, tea, vegetables, fruits, nuts, spices, herbs, seeds, ornamental plants, cultured flowers and flowers for cutting.

52. The method according to claim 1, wherein the antimicrobial composition as defined in claim 1 is applied shortly before and after the harvest to prevent molds, viruses and parasites.

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